

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-6. (Canceled)

7. (New) An electrical energy meter for measuring electrical energy usage over a wide range of service voltages, comprising:

at least one resistive voltage divider that is capable of receiving any service voltage in said wide range and scaling the received service voltage to provide a scaled voltage, wherein the scaled voltage does not exceed a maximum peak-to-peak value for any received service voltage within the wide range of standard service voltages; and

a power supply that is capable of receiving any service voltage in said wide range and producing therefrom a supply voltage used within said electrical energy meter.

8. (New) The meter of claim 7, wherein the resistive voltage divider is a resistor network that outputs a fraction of the standard service voltage and a predetermined reference voltage.

9. (New) The meter of claim 7, wherein the power supply comprises a transformer having first and second windings, wherein the first winding receives an input voltage based on the wide dynamic range of standard service voltages so that current flows through the first winding, and wherein the second winding provides the output of the power supply, and wherein the output of the power supply is regulated to provide a predetermined output voltage independent of the type of wide dynamic range of standard service voltages.

10. (New) The meter of claim 7, wherein the power supply further comprises a transformer, wherein the transformer comprises:

a first winding, wherein an input voltage based on the wide dynamic range of standard service voltages is provided to the first winding so that current flows through the first winding, wherein the wide dynamic range of standard service voltages include RMS voltages between about 96 Vrms and about 528 Vrms;

a second winding that defines an output of the power supply; and

a third winding, wherein the third winding generates a control signal as a function of the current flowing through the first winding, and wherein the flow of current through the first winding is adjusted as a function of the control signal thereby regulating the output of the power supply on the second winding to a predetermined output voltage independent of the input voltage.

11. (New) The meter of claim 7, wherein the wide dynamic range of standard service voltages include RMS voltages between about 96 Vrms and about 528 Vrms.

12. (New) The meter of claim 7, wherein the resistive voltage divider comprises:

a first resistive divider having a resistance of approximately 2 Megaohms and being adapted to interface to a first phase of the circuit;

a second resistive divider having a resistance of approximately 2 Megaohms and being adapted to interface to a second phase of the circuit; and

a third resistive divider having a resistance of approximately 2 Megaohms and being adapted to interface to a third phase of the circuit;

the scaled voltage produced by the resistive voltage divider is linear and has a minimal phase shift.

13. (New) The meter of claim 8, wherein the resistive voltage divider means further comprises:

a first scaling resistor coupled to the first resistive divider;

a second scaling resistor coupled to the second resistive divider;

a third scaling resistor coupled to the third resistive divider; and

wherein each of the scaling resistors scales the input voltage to about 1 Volt peak-to-peak.

14. (New) The meter of claim 9, wherein each the scaling resistor is a metal film resistor.

15. (New) The meter of claim 8, wherein each of the resistive dividers comprises two resistors in series each resistor having the same resistance and watt loss.

16. (New) The meter of claim 7, further comprising:

a processing means coupled to the resistive voltage divider means for receiving an input of the scaled voltage and for processing the scaled voltage to generate an output signal representative of electrical energy usage.

17. (New) The meter of claim 7, wherein the wide dynamic range is between about 96V and about 528V.

18. (New) The meter of claim 7, wherein the input voltage is based on one of a 120 Vrms standard service and a 277 Vrms standard service.

19. (New) The meter of claim 14, wherein the 4-wire service is either a 4-wire delta service or a 4-wire wye service and wherein the meter is adapted for use with either the 4-wire services without hardware modification, software modification or reprogramming.

20. (New) The meter of claim 14, wherein the meter requires no hardware modification, software modification, or reprogramming to accommodate the range of input voltages.

21. (New) The meter of claim 7, wherein the meter requires no hardware modification, software modification, or reprogramming to accommodate a range of input voltages over the wide dynamic range of standard services or based on the type of 4-wire service.